



JOIN THE CENTURY OF SOLAR

A Year of Virtual Celebration

## SWC50-The Century of Solar Celebration Newsletter - January 2021

This month we provide an overview of

- The **SWC50-The Century of Solar** celebration virtual conference;
- The online museum: **ISES Solar Energy Museum - Past Present and Future**;
- The booklet: **ISES SWC50: The Century of Solar - Stories and Vision**;
- The Pioneers that were submitted;
- The Partners; and
- The Supporters

### SWC50 -The Century of Solar Virtual Conference

More than 800 attendees from 76 countries joined the six sessions that were held on 3<sup>rd</sup> and 4<sup>th</sup> December 2020. The sessions addressed important aspects of the energy transformation: the history of solar and outlooks for future; technology innovations; transforming the energy sector; transforming the heating and cooling sector; and critical roles of public support, policy developments and financial markets in accelerating the transformation. The conference celebrated the evolution of renewables, and looked toward innovations in technology, finance, policy and society that will help achieve the energy transformation goals.

The recordings from the six sessions are now available from the ISES dedicated [SWC50 YouTube Playlist](#) as well as included in the individual sessions in the [online conference programme](#).

As a reminder the six sessions were as follows;

- Session 1 Welcome and Overview of the Century of Energy Transformation
- Session 2 Technology Innovations
- Session 3 Transforming the Energy Sector
- Session 4 Transforming the Heating and Cooling Sector
- Session 5 Public, Policy, and Financial Advances
- Session 6 Moving the Energy Transformation Forward

### What is SWC50 - The Century of Solar?

In 1970 solar research pioneers met at the first International Solar Energy Society (ISES) Conference in Melbourne Australia. ISES is commemorating this first Solar World Conference with a special 50th Anniversary Virtual Conference, called the Solar World Congress at 50 (SWC50).

During these past 50 years solar energy has grown from being emerging technologies to a vibrant industry. The Century of Solar highlights the transformation in the global energy sector that has taken place since the first Solar World Congress in 1970 and looks forward to the next 50 years when solar energy will be a major cornerstone of the global energy system. While the focus of the Century of Solar is on the evolution of solar energy, the importance of other renewable energy sources working together to reach the 100% renewable energy world goal will be a central theme.

**SWC50 - The Century of Solar** is about the people: researchers, industry players, policy makers, and leaders of NGOs and Non-profit organizations who have all contributed to make solar energy the fastest growing contributor to new electricity capacity.

**SWC50 Programme:** The SWC50 virtual conference was held on 3 - 4 December 2020, with two follow up webinars due in 2021.

## ***ISES SWC50: The Century of Solar - Stories and Vision***

The 365-page booklet: ***ISES SWC50: The Century of Solar-Stories and Visions*** was launched during the virtual conference. Though the booklet was developed to celebrate the event it will be updated periodically. The booklet tells the history of solar in short highlights and provides a look into the future as well. The highlights, organized by decade, cover solar PV, solar thermal, concentrating solar power, solar architecture, PV in developing countries and ISES itself. Each section also tells special stories of some of the many pioneers in solar research, development and manufacturing.

The booklet is free and can be accessed on the SWC50 website where it is available as an online booklet or as a PDF version that can be downloaded. Click on the link below to access the booklet.

[ISES SWC50 The Century of Solar Stories and Vision Booklet](#)

## ***ISES Solar Energy Museum - Past Present and Future***

The museum ***ISES Solar Energy Museum - Past, Present and Future*** was launched during the virtual conference.

The museum presents historical information and perspectives of the future of renewables and includes some examples of the more expanded information provided in the book. A detailed timeline for the ISES history that can be found at the entrance to the Museum underscores many of the key achievements in solar. The Museum also has a rich collection of video materials and other media which bring to life people and events of the solar community. Like the booklet, the museum will be updated frequently.

The museum will be a permanent online museum that will be maintained by ISES. During 2021 ISES will be forming a committee to co-ordinate the upkeep of the museum and to plan special exhibitions.

Access to the museum is free and can be accessed on the SWC50 website. Click on the link below to access the museum.

[ISES SWC50 Century of Solar Museum.](#)

## ***Renewable Energy Pioneers***

Without the efforts of individual researchers, system designers, system installers, business leaders, policy makers and those within the donor community, the renewable energy industry would not have grown from watts to Gigawatts in the last 50 years. ISES' way of acknowledging the many people was by issuing a call for the submission of Renewable Energy Pioneers to be listed in the celebratory booklet.

A total of 296 people from 42 countries are included in the relevant sections of the booklet: ***ISES SWC50: The Century of Solar-Stories and Visions***

These are broken down into research and industry pioneers as follows:

- 149 Research Pioneers from 34 countries; and
- 158 Industry Pioneers from 32 countries.

12 people were submitted in both categories.

ISES will be releasing an updated version of the booklet in October 2021 and therefore **ISES is re-issuing the call for submissions of the names of individuals covering the following two categories :**

1. **Research Pioneers:** Individuals who started their research in 1995 or earlier.
2. **Industry Pioneers:** Individuals who actively started working in or with the renewable energy industry in 1995 or earlier.

Names and information can be submitted [here](#) . Individuals can submit on behalf of themselves or on behalf of someone else, in particular for those who might have passed away.

## ***Partners of SWC50***

[www.swc50.org](http://www.swc50.org)

[swc50@ises.org](mailto:swc50@ises.org)

[#SWC50](https://twitter.com/SWC50)

ISES acknowledges the support provided by the Platinum Partners: GSES from Australia and NREL from USA; Gold Partner: Smart Energy from Turkey.

### **Platinum Partner: Global Sustainable Energy Solutions Pty Ltd (Australia)**



*GSES create sustainable change through quality education, engineering communication and leadership*

Global Sustainable Energy Solutions Pty Ltd was founded in Australia in September 1998 by four founding partners: Mr Geoff Stapleton, Ms Susan Neill, Mr Stephen Garrett and Mr Kim Aitkinson.

At the time of formation, each of the four partners had over 10 years' experience in the sustainable energy industry and in particular, operating their own companies within Australia. Each of the four companies were involved in designing, selling and installing off grid (stand-alone) power systems. The initial objective of GSES was to use this experience to engage with similar companies internationally, in particular in-country locally owned renewable energy businesses in the Asia, Africa and the Pacific.

Over the past 22+ years GSES has grown into a multi-disciplinary organisation specialising in professional engineering design, consulting services and training across the Sustainable Energies sector and comprises a team of highly experienced systems engineers, designers, installers and accredited trainers.

GSES has undertaken projects in over 40 countries across Australia, New Zealand, Asia, Africa and the Pacific Islands. As such, GSES has undertaken a diverse portfolio of work for the Australian Federal, State and Local governments, the New Zealand Government, multi-lateral and bi-lateral donors, NGOs and private enterprises in works ranging from training, capacity building, engineering, design, systems audit and feasibility assessment.

Over the last 22 years GSES has developed many training courses aimed at technicians and engineers to design, install and maintain solar systems. These systems have been conducted as face-to-face and online courses. GSES has worked with many training centres locally and internationally to build their capacity by supplying course material and training the trainers. To support these courses GSES has developed and published a number of technical books for engineers, technicians, solar business owners along with basic informative booklets aimed at raising an awareness of solar energy and its applications.

In 2012 GSES expanded with the opening of a joint venture with Dwipen Boruah in India (GSES-India). In 2014 GSES hired Chris Martell, who became manager at the Sydney office at the end of 2016 after Susan Neill retired.

Further information on GSES services can be found at the website: [www.gses.com.au](http://www.gses.com.au) or by sending an e-mail to [info@gses.com.au](mailto:info@gses.com.au)

### **Platinum Partner: National Renewable Energy Laboratory (USA)**



*The National Renewable Energy Laboratory (NREL) is transforming energy through research, development, commercialization, and deployment of renewable energy and energy efficiency technologies.*

For more than 40 years, NREL's world-class research staff has devised solutions to transform the way we generate, consume, store, and distribute energy. And now, NREL's work is more important than ever. As the population grows and new technologies and devices are added to the grid, we must examine the effects on the grid and enhance security within our most critical systems. As environmental threats expand and human demands on urban centers increase, we need more sustainable and efficient ways of generating energy that consider resource competition worldwide. NREL continues to anticipate these challenges, offering solutions through research, innovation, analysis, partners, and people. NREL is building the foundation of tomorrow's energy landscape and inspiring the economic growth of the future.

From the start, NREL's leadership in energy efficiency and renewable energy science and technology has set us apart. NREL is focused on creating the technical foundation that will support the continued evolution of an advanced energy ecosystem. Researching energy systems and technologies—and the science behind them—for a future powered by advanced integrated systems is what NREL is known for and what NREL does best. NREL's scientific excellence shines bright. NREL is proud that, during our 40-plus years, NREL scientists have been awarded more than 60 R&D 100 Awards, known as the "Oscars of Innovation." NREL's groundbreaking energy research has contributed to transformational scientific advancements, exponential decreases in costs, and more renewable installed capacity than ever before.

NREL is transforming energy to create a better today...and tomorrow. NREL is home to the most powerful, high-performance computing system exclusively dedicated to advancing renewable energy and energy efficiency technologies. NREL also offers state-of-the-art immersive, high-resolution visualization capabilities at the Energy Systems Integration Facility's (ESIF's) Insight Center. The high-performance computing data center at NREL is highly energy efficient, thanks to a warm-water liquid cooling system. The system captures and reuses waste heat as the primary heating source throughout ESIF offices and laboratory space. Whether it is growing the scientific body of knowledge, developing analyses to help inform policymakers, engineering integrated energy infrastructure, or establishing valuable partnerships to bring the next generation of technologies to market, innovation for positive societal impact is at the core of NREL's work. With programs to advance research and technologies in advanced manufacturing, bioenergy, buildings, computational science, energy analysis, energy security and resilience, energy storage, geothermal, grid modernization, government energy programs, hydrogen and fuel cells, solar, transportation, water, and wind, NREL will stop at nothing to push the boundaries of what is possible.

Further information on NREL services visit the website: [www.nrel.org](http://www.nrel.org)

### **Gold Partner: Smart Energy (Turkey)**



Smart Energy is one of Europe's leading integrated solar power companies with presence in Solar IPP, Solar EPC and PV module manufacturing. Headquartered in İstanbul, Turkey, offers the complete solar solutions - from setting up solar power plants to providing innovative solar products for both commercial and retail users.

Established in the year 2009, it has an extensive presence in South East Europe with over 500 employees, 1 manufacturing facility, 7 offices located in Turkey, Romania, Greece, Bulgaria, Germany, Switzerland and Ukraine.

Smart Energy manufactures highly efficient solar PV modules based on crystalline silicon technology for use in on-grid & off-grid solar power plants, commercial rooftop and land based solar power projects. With at 23.500m<sup>2</sup> indoor space and state-of-the-art automated production lines, the highest quality standards are ensured totaling to an 1000MW annual capacity in producing both standard and dual glass modules by using the latest PERC, Half Cut Cell, Multi-Busbar (up to 12) and bifacial solar module technologies.

Smart Energy currently owns and operates solar IPP sites in Turkey, Romania, Greece and Bulgaria with a total capacity over +100 MW, with another +60MW under construction.

With a portfolio of more than 500+ MW in utility scale & rooftop solar EPC projects, we possess years of expertise in constructing utility-scale and rooftop solar power plants of all solar sizes.

Further information on Smart Energy visit the website: <https://www.smartsolar.com.tr>

### **Supporters of SWC50**

## INDUSTRY ASSOCIATION SUPPORTERS



## MEDIA SUPPORTERS



## ASSOCIATE SUPPORTERS



**renew.**  
Leading in sustainability

